

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-18 are currently pending, with Claims 3-9 and 12-18 withdrawn as directed to non-elected inventions. Claims 1, 2, 10, and 11 have been amended by the present amendment. The changes to the claims were supported by the originally filed specification and do not add new matter.

In the outstanding Office Action, the Examiner indicated that the related case statements were not considered; Claims 1 and 2 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter; Claims 1, 2, 10, and 11 were rejected under 35 U.S.C. § 112, second paragraph, regarding questions of clarity and antecedent basis; and Claims 1, 2, 10, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,937,063 to Davis (hereinafter “the ‘063 patent”) in view of U.S. Patent No. 6,938,162 to Nagai et al. (hereinafter “the ‘162 patent”).

Regarding the related case statements, Applicants note that 37 C.F.R. § 1.97 and 1.98 require only that submitted references be “listed.” Accordingly, Applicants respectfully submit that the related case statements that were filed satisfy this requirement and should be considered by the Examiner.

Applicants respectfully traverse the rejection of Claims 1 and 2 under 35 U.S.C. § 101. In this regard, Applicants note that the Office Action states that “it appears that the method of Claims 1-2 is not tangibly embodied.”¹ Applicants request a further explanation of this rejection if this rejection is maintained in a future Office Action. However, Applicants respectfully submit that Claim 1 is directed to statutory subject matter. Claim 1 is directed to a method for sharing an encrypted data region among two or more processes on a tamper

¹ See page 2 of the outstanding Office Action.

resistant processor having a program and a data encryption and decryption function.

Applicants respectfully submit that the method of Claim 1 is tangibly embodied because it is directed to a method of operating processes on a tamper resistant processor.

Applicants respectfully submit that the rejections of Claims 1, 2, 10, and 11 under 35 U.S.C. § 112, second paragraph, are rendered moot by the present amendment to those claims. Claims 1, 2, 10, and 11 have been amended to address the antecedent basis questions and the questions of clarity noted in the Office Action.

Amended Claim 1 is directed to a method for sharing an encrypted data region among two or more processes on a tamper resistant processor having a program and a data encryption and decryption function, the method comprising: (1) giving a common key to each one of the two or more processes; (2) shifting an execution mode of the tamper resistant processor to an encrypted instruction execution mode; (3) operating an owner process among the two or more processes to generate a shared encrypted data region valid only with respect to the common key in a process space of the owner process; (4) operating each of client processes other than the owner process among the two or more processes to map the shared encrypted data region generated by the owner process to a process space of each client process; and (5) setting address information of the shared encrypted data region for each process among the two or more processes in relation to the common key and an encrypted attribute register inside the tamper resistant processor. Claim 1 has been amended for the purpose of clarification only and no new matter has been added.

Regarding the rejection of Claim 1 under 35 U.S.C. § 103, the Office Action asserts that the '063 patent discloses everything in Claim 1 with the exception of setting address information, and relies on the '162 patent to remedy that deficiency.

The '063 patent is directed to a subsystem that prevents the unauthorized replacement of boot-up firmware embedded in a modified or nonvolatile memory device such as flash

memory. In particular, the '063 patent discloses that the security protection is established by encryption and decryption of the boot-up instructions using a secret key shared by both a secure boot device and a host processor. As shown in Figure 1, the '063 patent discloses that both host processor 50 and secure boot device 54 are configured to contain a shared secret key 64 in the respective nonvolatile memories 65 and 62. As disclosed by the '063 patent, the shared secret key 64 is established at manufacture during initialization. Further, the '063 patent discloses that the host processor 50 issues a read request for an address corresponding to the boot-up program (step 110) and the secure boot device detects this boot-up address by having its address space mapped to the corresponding boot-up program (step 112). Next, the '063 patent discloses that the secure boot device 54 encrypts the corresponding boot-up instructions by using the shared secret key 64 (step 114), and the secure boot device responds to the host request with the encrypted boot-up instruction (step 116). Finally, the '063 patent discloses that the host processor 50 decrypts the encrypted boot-up instruction by using the shared secret key 64 (step 118). In step 120, it is determined whether the resulting decrypted boot-up instruction is an improper or invalid instruction. If it is not an invalid instruction, the '063 patent discloses that the host processor 50 proceeds with the next boot-up instruction until the entire booting sequence is completed (step 140). However, Applicants respectfully submit that the '063 patent fails to disclose the step of operating each of client processes other than the owner process among the two or more processes to map the shared encrypted data region generated by the owner process to a process space of each client process. Rather, the '063 patent discloses that the host processor 50 does not generate a data region valid only with respect to the shared secret key 64 in a process space of the host processor 50, and accordingly the secure boot device 54 does not map the data region generated by the host processor 50 to a process space of the secure boot device 54, but only maps the corresponding boot-up program to the address space thereof.

The '162 patent is directed to a recording type optical disk on which data is recordable, including a data recording and reproducing area for recording data therein and reproducing data therefrom, and a read-only disk identification information area for recording disk identification information. However, Applicants respectfully submit that the '162 patent fails to remedy the deficiencies of the '063 patent, as discussed above. The '162 patent does not disclose operating each of client processes other than the owner process among the two or more processes to map the shared encrypted data region generated by the owner process to a process space of each client process, as recited in amended Claim 1.

Thus, no matter how the teachings of the '063 and '162 patents are combined, the combination does not teach or suggest the step of operating each of client processes other than the owner process among two or more processes to map the shared encrypted data region generated by the owner process to a process space of each client process, as recited in Claim 1. Accordingly, Applicants respectfully traverse the rejection of Claim 1 (and dependent Claim 2) under 35 U.S.C. § 103.

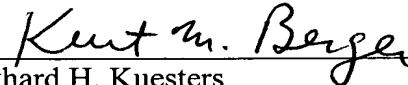
Amended Claim 10 recites limitations analogous to limitations recited in Claim 1. Moreover, Claim 10 has been amended in a manner analogous to the amendment to Claim 1. Accordingly, for the reasons stated above for the patentability of Claim 1, Applicants respectfully traverse the rejection of Claim 10 (and independent Claim 11) under 35 U.S.C. § 103.

Thus, it is respectfully submitted that Claims 1, 2, 10, and 11 patentably define over any proper combination of the '063 and '162 patents.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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